

Observations of Ly α Emission in Young Galaxies

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Abstract. We report IUE observations of two extremely low metallicity HII galaxies. Lyman alpha emission was detected in both galaxies.

Key words: Primordial galaxies - Low metallicity galaxies - Ly α emission

1. Results

Our result confirms previous findings that young or unevolved galaxies exhibit weak or absent Ly α emission combined with a strong UV continuum, as well as the correlation between the Ly α /H β ratio and metal content. This correlation supports the hypothesis that in these systems Ly α is destroyed by dust absorption. Given that very low metal content seems to be a necessary condition to detect Ly α , the extreme rarity of galaxies with low metal content may explain the difficulty in detecting Ly α emission associated with damped Ly α systems in QSOs. Our results cast doubts on recent claims of detection of high redshift young galaxies associated with active galaxies, since they may represent very extended narrow line regions photoionized by a power law rather than by normal hot stars. Full account of this work is being published elsewhere.

Acknowledgements

Travel grants by the Royal Society and the IAU are thanked by ET and RT.

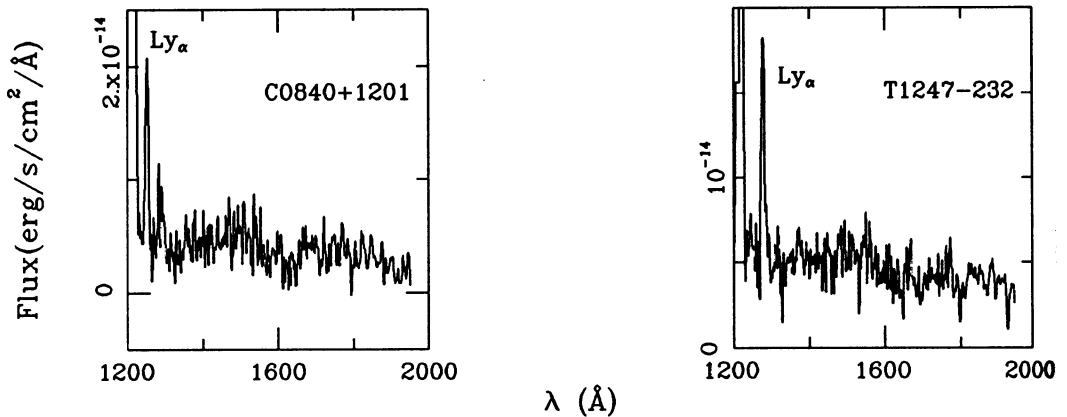


Fig. 1. UV spectra of C0840+1201 and T1247-232; no emission lines other than Ly α are detected and only a hint of absorption is seen in the spectrum of T1247-232 at the redshifted wavelengths of CII and SiII.